AMSAT News Service Weekly Bulletins
Issue: ANS-327
Date: 1997-11-23
Sources: amsat-ans-1997-ans-327-weekly.txt

SB SAT @ AMSAT $ANS-327.01
MIR FREQUENCY EXPERIMENTS
HR AMSAT NEWS SERVICE BULLETIN 327.01 FROM AMSAT HQ
SILVER SPRING, MD, NOVEMBER 23, 1997
TO ALL RADIO AMATEURS BT
BID: $ANS-327.01
As part of ongoing frequency experiments to improve Amateur Radio operations on board Mir, and to better understand how these frequencies will be effective on the International Space Station, Mir will begin a 2 phase frequency experiment beginning December 1, 1997 and ending on May 31, 1997.
For phase 1, a 70cm/2m crosslink experiment will operate for a 3 month period from December 1, 1997 up to March 1, 1998.
On December 1 the Mir operating frequencies will change to:
Uplink: 437.850 MHz   Downlink: 145.800 MHz
Phase 2 of this experiment will use a 2 meter-only set of uplink and downlink frequencies. This phase of the experiment will begin on March 1, 1998 and will also be of 3 months duration.
This experiment was developed by the international partners in Manned Space discussions at the recent Toronto AMSAT-NA Space Symposium. It has been endorsed by the representatives present at the conference which included SAFEX, SAREX, AMSAT-UK, the IARU Region 2 President, the IARU Satellite Advisor, (ZS5AKV), ARI (Italy) and RAC (Canada).   While not present at the Toronto meeting, the US Mirex team has also been consulted and have agreed with the spirit of this experiment.
All hope that this experiment will help further understand how best to accommodate future operations of Amateur Radio on Manned Space Vehicles.
[ANS thanks Tim Bosma, W6ISS, AMSAT's Manned Space Frequency Coordinator and Frank Bauer, KA3HDO, AMSAT-NA's VP for Manned Space, for the information that went into this bulletin item.]
/EX
SB SAT @ AMSAT $ANS-327.02
SPUTNIK MODEL UPDATE
HR AMSAT NEWS SERVICE BULLETIN 327.02 FROM AMSAT HQ
SILVER SPRING, MD, NOVEMBER 23, 1997
TO ALL RADIO AMATEURS BT
BID: $ANS-327.02
Reports continue to be received from around the world indicating that the working model Sputnik satellite launched Monday, November 3 from the Russian MIR Space Station is maintaining a readable downlink signal from its 100 milliwatt transmitter.
Many news organizations around the world have featured articles on the satellite. The Newport News Daily Press in Newport News, Virginia ran a front page story that stirred a lot of local interest in the Sputnik project and also in the Langley Research Center in Hampton, Virginia. Many at Langley remember the excitement and increased funding for space flight research after the original Sputnik was launched.
Two hams, W8RVH and W8ZCF, have been making temperature observations on the satellite since its launch using an audio generator, frequency counter and oscilloscope, providing the following data:

UTC Date/Time	Frequency/Hz	Temperature/Deg C
06 Nov. 1997 14:26	1269.3	27.0
07 Nov. 1997 13:27	1257.4	23.0
08 Nov. 1997 14:06	1255.9	22.0

```
09 Nov. 1997 13:08          1248.4 19.5
11 Nov. 1997 12:49          1248.3 19.5
12 Nov. 1997 11:49          1244.3 19.0
13 Nov. 1997 09:12     1257.0 21.8
13 Nov. 1997 14:03          1241.0 18.0
14 Nov. 1997 12:05          1244.5 19.0
14 Nov. 1997 16:17          1245.0 19.0
16 Nov. 1997 14:19     1246.0 19.0
17 Nov. 1997 13:20          1243.0 18.5
```

W8RVH and W8ZCF are continuing temperature analysis on Sputnik 40 with a more detailed analysis now being made on the temperature recordings, prompted by a notation of a downward drift of temperature during the latest passes. This downward change is currently unexplained.

The satellite was built as a joint project by schools in Russia and Reunion Island, with technical assistance from AMSAT-France. Operating solely on internal batteries, the downlink signal of the 1/3 scale model is only expected to continue for the next few weeks.

[ANS thanks F6FAO, WB5POJ, W8RVH and W8ZCF for information that went into this bulletin.]

/EX

SB SAT @ AMSAT $ANS-327.03

DOVE QSL ANNOUNCEMENT

HR AMSAT NEWS SERVICE BULLETIN 327.03 FROM AMSAT HQ

SILVER SPRING, MD, NOVEMBER 23, 1997

TO ALL RADIO AMATEURS BT

BID: $ANS-327.03

QSL cards for the DOVE (DO-17) satellite are once again available. These special cards depict a dove carrying an olive branch in its mouth and will be provided to anyone who sends a report indicating they've heard the satellite. DO-17 transmits on 145.825 and 2401.220 mHz, and is presently sending 1200 baud AX.25 (standard packet) ASCII telemetry on 2 meters.

On S band, DOVE transmits PSK flags continuously, and then repeats the same data transmitted on 2 meters.

To receive a QSL for hearing DOVE, send a reception report and SASE to:

Dianne White N0IZO
45777 Rampart Road
Parker, Colorado   80138-4316
USA

[ANS thanks Jim White, WD0E, for this information.]

/EX

SB SAT @ AMSAT $ANS-327.04

CUBA TO BE ACTIVE ON SATELLITE

HR AMSAT NEWS SERVICE BULLETIN 327.04 FROM AMSAT HQ

SILVER SPRING, MD, NOVEMBER 23, 1997

TO ALL RADIO AMATEURS BT

BID: $ANS-327.04

A group of hams from Sweden, Denmark and Cuba will be active on 50, 144 and 432 MHz, as well as the satellites, from Punta Corella, Cuba, starting November 25, 1997. Operation will end December first. Operators will be Soren, OZ1FTU, Johan, SM3UZS and Oscar, CO2OJ.

Punta Corella (grid square FL11sg) is a rare, never-before-activated grid on VHF. In addition to terrestrial VHF/UHF frequencies, Oscar promises operation on RS-12, FO-20, FO-29 and possibly AO-10. This will be an excellent opportunity for those who need to confirm Cuba via satellite operation.

This VHF/UHF station is part of an international effort for the CQ WW CW Contest. The HF group will use the callsign T48RCT on all HF bands from 160 to 10 meters, including WARC bands. Once the contest starts they will switch to the callsign T49C.

Oscar reports T49 is a "never before used" prefix and T49C will
be the first Cuban station with only one letter as a suffix.
More information on this entire operation is available at the
FRC Web Page:
http://www.infocom.etecsa.cu/new/frc/frcuba.htm
or at the Sweden Group Site:
http://ham.te.hik.sel/clubs/sk0ux/T48RCT.htm
[ANS thanks Oscar, CO2OJ, and Jon, N0JK, for this information.]
/EX
SB SAT @ AMSAT $ANS-327.05
SHUTTLE AUDIO RETRANSMISSIONS
HR AMSAT NEWS SERVICE BULLETIN 327.05 FROM AMSAT HQ
SILVER SPRING, MD, NOVEMBER 23, 1997
TO ALL RADIO AMATEURS BT
BID: $ANS-327.05
Although the current shuttle mission will not include operation
on any of the Ham Bands, the Goddard Amateur Radio Club (WA3NAN)
in Greenbelt, Maryland reminds amateurs and SWLs world wide that
the club retransmits shuttle audio on 3.860, 7.185, 14.295 and
occasionally 21.395 and 28.650 mHz. Locally in the Greenbelt
area, shuttle re-transmissions are handled on 147.45 mHz FM.
The club will be on the air when all of the following
conditions are met:
1. the Shuttle crew is awake
2. a volunteer control operator is available
3. no power outages, snowstorms, thunderstorms or major
equipment failures at the club shack.
The club has had a severe shortage of control operators lately,
so if the station is not on the air, it is probably due to the
non-availability of a control operator. Any licensed ham
living reasonably close to the area can be a volunteer control
operator. Please contact the club if you are interested in
serving in this role.
The GARC Shuttle Retransmission FAQ can be found at:
http://garc.gsfc.nasa.gov/www/retransmission/shuttle_faq.html
The club can be reached by telephone at (301) 286-6673, or by
mail at PO Box 86, Greenbelt, Maryland 20768-0086.
[ANS thanks Dan Schultz, N8FGV, for this information.]
/EX
SB SAT @ AMSAT $ANS-327.06
ANS EDITORIAL TEAM NEWS
HR AMSAT NEWS SERVICE BULLETIN 327.06 FROM AMSAT HQ
SILVER SPRING, MD, NOVEMBER 23, 1997
TO ALL RADIO AMATEURS BT
BID: $ANS-327.06
BJ Arts, W0TN, Chief Editor for these weekly bulletins, is
now reported to be resting comfortably at home after major
surgery. BJ sends his thanks all for their thoughts and prayers
during his recent hospitalization.
In a related development, Dan James, NN0DJ, has now also
volunteered to join the Editorial team for ANS, and will be
assisting BJ with writing the bulletins each week. Dan brings
a wealth of on-air broadcast experience and polished news
writing abilities to the ANS team.
"Both of these gentlemen deserve our continued thanks for their
efforts to keep us all informed of the latest AMSAT news week
after week," said Keith Baker, KB1SF, AMSAT-NA's Executive Vice
President. "We're most pleased to have Dan join the team and
we're VERY glad that BJ is now resting at home and eager to get
back into the Editor's chair. We all wish him a speedy
recovery!" Keith said.
[ANS thanks Keith Baker, KB1SF, for the information that went
into this bulletin item.]
/EX

SB SAT @ AMSAT $ANS-327.07
WEEKLY SATELLITE REPORT PT 1
HR AMSAT NEWS SERVICE BULLETIN 327.07 FROM AMSAT HQ
SILVER SPRING, MD, NOVEMBER 23, 1997
TO ALL RADIO AMATEURS BT
BID: $ANS-327.07
MIR (Simplex 145.985 mHz, FM)
The MIR crew believes the antenna coax for the MIR PMS station
may have been damaged during the space walk on Thursday,
November 6. It has been suggested to the crew not to use the
PMS station until the cable is repaired. The crew may attempt
to fix the coax cable during a scheduled December space walk.
The PMS station is expected to be off the air for the next
several weeks.

SAFEX, MIR 70 cm Repeater
(Uplink 435.750 mHz FM, Downlink 437.950 mHz FM, subaudible tone
141.3 Hz)
The repeater is working and stations are encouraged to use the
SAFEX II repeater. The crew members have the option of using
the Mic on the repeater to talk to amateurs using the repeater.

RS-10
(Uplink 145.865-145.905 mHz CW/SSB, Downlink 29.36-29.4 mHz
CW/SSB) Not operational at this time.
RS-12
(Uplink, 145.91-145.95 mHz CW/SSB, Downlink 29.41-29.45 mHz)
Operational, now in mode A. Lots of activity over North America
with good downlink signal reports being received.
RS-15
(Uplink 145.858-145.898 mHz CW/SSB, Downlink 29.354-29.394 mHz
CW/SSB) Operational. (Hint: If SSB doesn't work for you, try
CW. CW is very easy to hear on the downlink)!
RS-16
Transponder information on RS-16.
Uplink = 145.915 - 145.948 mHz; Downlink = 29.415- 29.448 mHz
Beacons = 29.408 and 29.451 mHz
Pwr 29 mHz Down = 1.2 W /4 W
Beacon 1 = 435.504 mHz
Beacon 2 = 435.548 mHz
Pwr 435 mHz Beacons = 1.6 W
RS-17
Operational. Beacon: 145.820 mHz
AO-10
(Uplink 435.030-435.18 mHz CW/LSB, Downlink 145.975-145.825 mHz
CW/USB) Operational. Stacey Mills, W4SM, would appreciate any
perigee observations of AO-10's beacon or transponder during
the next several weeks until conditions begin to improve.
If his orientation figures are correct, AO-10 should
be down to a solar angle of -84 degs with only 11% illumination.
[ANS thanks Stacey Mills, W4SM, for this report]
AO-27
(Uplink 145.85 mHz FM, Downlink 436.792 mHz FM)
Operational with lots of activity including QRP stations heard
over North America.
[ANS thanks Michael Wyrick, N4USI, AO-27 Control-op, for this
update]
FO-20
(Uplink 145.9-146.0 mHz CW/LSB, Downlink 435.8-435.9 mHz CW/USB)
Operational. FO-20 is in mode JA continuously.
[ANS thanks Kazu Sakamoto, JJ1WTK, for this report]
FO-29
Voice/CW Mode JA:
(Uplink 145.9-146.0 mHz CW/LSB, Downlink 435.8-435.9 mHz CW/USB)

Digital Mode JD:
(Uplink 145.85, 145.87, 145.910 mHz FM, Downlink 435.910 mHz FM 9600 baud BPSK)
Operational.
[ANS thanks Kazu Sakamoto, JJ1WTK, for this report]
/EX
SB SAT @ AMSAT $ANS-327.08
WEEKLY SATELLITE REPORT PT 2
HR AMSAT NEWS SERVICE BULLETIN 327.08 FROM AMSAT HQ
SILVER SPRING, MD, NOVEMBER 23, 1997
TO ALL RADIO AMATEURS BT
BID: $ANS-327.08
KO-23
(Uplink 145.85, 145.9 mHz FM, Downlink 435.175 mHz FM, 9600 Baud FSK)
Stacey Mills, W4SM, has estimated from Keps that KO-23 will not experience an eclipse again until December 12th. Starting with the orbits of that day, eclipses rapidly increase in duration from 2 to 11 minutes. Eclipse length will then continue to increase, peaking at 35 minutes per orbit in the December 28th thru January 4th time period. Eclipse length will then begin slowly decreasing again. KO-23's download efficiency has dropped dramatically due to the increasing heat and its effects on the signal deviation.
[ANS thanks Stacey Mills, W4SM, for this report]
KO-25
(Uplink 145.980 mHz FM, Downlink 436.5 mHz FM, 9600 Baud FSK.)
KO-25 operating normally.
[ANS thanks Jim Weisenberger, AA7KC, for this report]
OSCAR-11
(Downlink 145.825 mHz. FM, 1200 Baud PSK. Beacon 2401.500 mHz)
Operating normally. During the period of October 14th through November 16th this satellite has continued to provide good signals on its 145.826 mHz beacon.
Telemetry nominal. The battery voltage has been steady at around 14.0 volts for most of the time, although occasional values of 13.8 and 14.2 volts have been observed.
The internal temperatures continued to increase, reaching maximum values around October 21st of 18C and 15C for battery and telemetry electronics respectively. The temperatures have now started to fall, and at the present time are 13.6C and 10.6C. This change in temperature is due to variations in solar eclipse times, which have now started to increase. Two WOD surveys have been transmitted during the period. Channels 17, 18, 27, 28 (+X, +Y, -X, -Y facet temperatures), dated 16 September, and channels 10, 20, 30, 40 (-Y, +Y, -X, +X array currents) dated 29 October. These show the effect of solar eclipses on array currents and external temperatures.
Followers of OSCAR-11 will have noticed that the news bulletin has not been changed recently. Richard, G3RWL, has received very little feedback from his regular bulletin service, and at a recent AMSAT-UK committee meeting it was decided to discontinue the weekly postings and replace them by a static bulletin. This may be changed at monthly intervals and will contain items such as Keplerian elements and satellite frequencies. ANS thanks Richard for providing this service for so many years...well over a hundred bulletins!
The operating schedule remains unchanged:
ASCII status (210 seconds)
ASCII bulletin (60 seconds)
BINARY SEU (30 seconds)
ASCII TLM (90 seconds)
ASCII WOD (120 seconds)

ASCII bulletin (60 seconds)
BINARY ENG (30 seconds)
There are also additional status blocks after each bulletin is transmitted, and between ASCII TLM and WOD.
The mode-S beacon is ON, transmitting an unmodulated carrier, but telemetry indicates that it has partially failed, and delivering half power. This beacon is a useful test source for those testing mode-S converters, prior to the launch of P3-D. It is considerably weaker than DOVE, which should be used for initial testing. Any reports of reception on 2401mHz would be most welcome. Please e-mail reception reports to g3cwv@amsat.org.
The 435.025 mHz beacon is normally OFF. However it can sometimes be heard when the satellite is being commanded by ground control, (i.e. within range of Guildford, Surrey, UK). When the 435 beacon is transmitting, the 145 beacon is normally OFF.
The data transmitted is mainly binary.
OSCAR-11 users are welcome to visit the G3CWV web site.
It contains some software for capturing data, and decoding ASCII telemetry and the WOD survey. There is an archive of raw data (mainly WOD) for analysis, which is continually being expanded, as new data is captured.
The URL is - http://www.users.zetnet.co.uk/clivew/
[ANS thanks Clive Wallis, G3CWV, for this information]
AMSAT-OSCAR-16 (PACSAT)
(Uplink 145.9, 145.92, 145.94, 145.86 mHz FM, 1200 bps Manchester FSK.
Downlink 437.0513 mHz SSB, 1200 bps RC-BPSK 1200 Baud PSK.
Beacon 2401.1428 mHz.)
Operating normally.
Graphic information about WOD/Telemetry values can be found at:
http://www.arrakis.es/~ea1bcu/wod.htm
[ANS thanks Miguel A. Menendez, EA1BCU, for this report]
DO-17(DOVE)
(Downlink 145.825 mHz FM, 1200 Baud AFSK. Beacon 2401.220 mHz)
DOVE transmits on 145.825 mHz and 2401.220 mHz. It is presently sending 1200 baud AX.25 (standard packet) ASCII telemetry about every minute on two meters. On S band it transmits PSK flags continuously and also the same data as is sent on 2 meters.
[ANS thanks Jim White, WD0E, for this update]
WEBERSAT (WO-18)
(Downlink 437.104 mHz SSB, 1200 Baud PSK AX.25)
No report available at this time.
LUSAT-OSCAR-19
(Uplink 1200 bps Manchester FSK Uplinks: 145.84, 145.86, 145.88, 145.9 mHz FM, Downlink 437.125 mHz SSB, 1200 bps RC-BPSK.)
Operating normally.
Graphic and general information about Telemetry values can be found at:
http://www.arrakis.es/~ea1bcu/lo19.htm
[ANS thanks Miguel A. Menendez, EA1BCU, for this report]
UO-22
(Uplink: 145.900 or 145.975 mHz FM. Downlink 435.120 mHz FM 9600 Baud FSK)
UO-22 is operating normally.
Chris Jackson, G7UPN/ZL2TPO, has reloaded the Store and Forward communications task on the UO-22 On-Board Computer. This task includes incremental checksums which should make uploading slightly faster. In the old task, once an upload was complete, the spacecraft had to perform the checksum on the complete file. Depending on the file length, this could take quite a long time. With the new task, the checksum is computed on the fly - while the data is actually being uploaded. Thus there is no need to recompile at the end of the transfer and this checksum delay is then removed. However, all files that were started before

Chris loaded the task will receive a corrupt body checksum
error when the upload is completed. If anyone gets persistent
body checksum errors while uploading files to UO-22 would they
please let Chris Jackson know as soon as possible.
[ANS thanks Chris Jackson, G7UPN/ZL2TPO, Ground station and
Operations Manager of UO-22, for this report]
IO-26 (ITAMSAT)
Uplink 145.875, 145.900, 145.925, 145.95 mHz FM,
Downlink 435.822 mHz SSB, 1200 Baud PSK)
The actual beacon is:
      26th September 1997 Happy birthday ITAMSAT!
      Today IO-26 is 4 years old and all sub-systems are OK
      Best wishes from the IT-AMSAT team
[ANS thanks Daniele, IK2XRO, and Piercarlo, IW2EGC,
ITMSAT Command Station for this report]
[Please send your Satellite or News reports to ANS Editor BJ Arts,
WT0N, via e-mail, at bjarts@the-bridge.net or to wt0n@amsat.org]
/EX
Daniel (Dan) James
Amateur callsign: NN0DJ
Grid Square EN-28iv
Warroad, Minnesota   U.S.A.
e-mail: nn0dj@amsat.org or danj@marvin.com
Amsat News Service Assistant Bulletin Editor
The ANS editor is BJ Arts, WT0N

--
BJ Arts
Amateur callsign: WT0N
ARMY MARS callsign: AAR5EL
Grid Square EN-37mk
Hibbing, Minnesota. U.S.A.
e-mail bjarts@the-bridge.net or wt0n@amsat.org
Amsat News Service Bulletin Editor